

CLAIMS

WHAT IS CLAIMED IS:

1. Apparatus for calibrating the scanner head assembly in an image-capturing device of the type which includes a scanner head assembly and a document feeder for scanning an image, the apparatus comprising

a calibration member disposed within the document feeder, the calibration member being movable to a position within an optical path of the scanner head assembly when the scanner head assembly is ready for scanning.

2. The apparatus as defined in claim 1 further comprising:

a rotatable wheel assembly for holding the calibration member and positioning the calibration member within the optical path, the wheel assembly being disposed within the document feeder.

3. The apparatus as defined in claim 2 wherein the calibration member comprises a calibration strip attached to the outer circumference of the wheel assembly.

4. The apparatus as defined in claim 2 wherein the wheel assembly rotates the calibration member between at least an exposed position and a non-exposed position, the exposed position being within the optical path of the scanner head assembly when the scanner head assembly is in the scan position.

5. The apparatus as defined in claim 4 wherein the wheel assembly rotates the calibration member to the non-exposed position when the scanner head assembly is capturing an image.

6. The apparatus as defined in claim 4 further comprising:

a cam disposed within the document feeder and abutting the wheel assembly for rotating the wheel assembly into either the exposed or non-exposed position.

7. The apparatus as defined in claim 6 wherein the cam is configured to alternately shift the calibration member between exposed and non-exposed positions.

8. The apparatus as defined in claim 6 wherein the cam is configured to rotate the wheel assembly in clockwise and counterclockwise directions, whereby the calibration member is alternately moved between exposed and non-exposed positions.

9. The apparatus as defined in claim 7 further comprising:
a biasing member connected to the wheel assembly, the biasing member being configured to urge the wheel assembly towards the cam so as to retain the calibration member in either the exposed or non-exposed position.

10. The apparatus as defined in claim 4 further comprising:
a cleaning member within the document feeder for cleaning the calibration strip, the cleaning member being configured to clean the calibration strip when the calibration strip is moved to the non-exposed position.

11. The apparatus as defined in claim 10 wherein the cleaning member comprises a stationary cleaning blade disposed within the document feeder so as to contact the calibration strip during movement to its non-exposed position.

12. The apparatus as defined in claim 7 wherein the cam is coupled to a motor of the document feeder for rotating the cam.

13. The apparatus as defined in claim 3 wherein the calibration strip wheel is disposed within a cylindrical guide of the document feeder.

14. Apparatus for calibrating a scanner in an image-capturing device, the apparatus comprising:

a feeding mechanism for moving a document through a document feeder;

a guiding mechanism for guiding the document into an optical path of a scanner head assembly to capture an image on the document; and,

a calibration member adapted to be movably positioned in the optical path of the scanner head assembly when the scanner head assembly is in a scan position, so that the scanner can be calibrated without the scanner head assembly moving from the scan position.

15. The apparatus as defined in claim 14 further comprising:

a wheel assembly holding the calibration member for positioning the calibration member between an exposed position and a non-exposed position, the exposed position being within the optical path of the scanner head assembly when the scanner head assembly is in the scan position.

16. The apparatus as defined in claim 15 further comprising:

a cam coupled to the feeding mechanism and abutting the wheel assembly for rotating the wheel assembly in clockwise and counterclockwise directions, wherein the calibration member is alternately positioned between the exposed position and the non-exposed position.

17. Method of calibrating a scanner in an image-capturing device having a scanning head assembly and a connected document feeder, the method comprising the steps of:

moving the scanning head assembly to a scanning position;
shifting a calibration strip into an optical path of the scanning head assembly while the scanning head assembly is in the scanning position; and
scanning the calibration strip.

18. Apparatus for calibrating an image-capturing device of the type which includes a document feeder having a pickup mechanism coupled to a motor for feeding paper in a designated paper path substantially surrounding a cylindrical guide, the feeder being connected to an image-capturing device having a head assembly which in a first designated location scans the paper as the paper travels in the paper path, the apparatus comprising:

a wheel assembly disposed within the cylindrical guide and rotatably connected to a fixed central axis for reciprocating motion between first and second positions, the wheel having a curved outer surface;

a calibration strip attached to the outer surface of the wheel such that when the wheel is in the first position the calibration strip is in an optical path of the scanner head in the first designated location, the calibration strip being adapted to calibrate an image-capturing device when scanned by the device;

a cam in abutting engagement with the wheel for urging the wheel to rotate into the first or second position;

a cam pivot connected to the cam and rotatably coupled to the motor for rotating the cam; and,

a biasing member connected to the cam and to a fixed stop within the cylindrical guide, the biasing member being configured to urge the wheel to rotate into abutment with the cam so as to retain the wheel in either the first or second position.